Eur J Vasc Endovasc Surg **20**, 323–325 (2000)
doi:10.1053/ejvs.2000.1212, available online at http://www.idealibrary.com on IDEAL®

COCHRANE REVIEWS

Cochrane Collaborative Review Group on Peripheral Vascular Disease: Review Abstracts

Introduction

The following abstracts are part of an ongoing series of articles produced by the Cochrane Collaborative Review Group on Peripheral Vascular Diseases, which is part of the Cochrane Collaboration. The reviews are published in full on *'The Cochrane Library'*, a quarterly electronic journal available on CD-ROM, the Internet and many Health Care Libraries. The electronic format allows Cochrane reviews to accommodate new data as they become available, making the library a consistently up-to-date source of information over time.

The abstracts appearing on the Cochrane Library are now presented in a different, simpler, less scientific format than the abstracts presented here to permit greater accessibility to the public. However, the substance of both versions is the same. Review abstracts on Cochrane reviews are now indexed on MEDLINE.

If you are interested in writing a Cochrane review or contributing to the activities of the Cochrane Peripheral Vascular Diseases Group, please contact:

Professor FGR Fowkes
Cochrane Collaborative Review Group on Peripheral Vascular Disease
Department of Community Health Sciences
Public Health Sciences
University of Edinburgh
Teviot Place
Edinburgh EH8 9AG, U.K.
Tel. +44 (0) 131 650 3220
Fax. +44 (0) 131 650 6904

Any comments or criticisms on these Cochrane reviews/abstracts should be made through the comments/criticisms facility on the Cochrane Library, or by contacting the group at the above address.

Abstracts

Abstract: Elastic compression stockings for the prevention of deep vein thrombosis
S. Amaragiri and T. A. Lees
Date of most recent substantive amendment: 8 November 1999

Background

One of the settings in which deep vein thrombosis (DVT) in the lower limb and pelvic veins occurs is prolonged immobilisation in hospital for various surgical and medical illnesses. Use of graduated compression stockings (GCS) in these patients has been proposed to decrease the risk of DVT.

Objectives

The objective of this review was to determine the magnitude of effectiveness of graduated compression stockings in preventing deep vein thrombosis in various groups of hospitalised patients.

Search Strategy

The reviewers searched the Cochrane Peripheral Vascular Disease Group trials register, MEDLINE, and EMBASE and hand searched Indexes Medicus. Various GCS manufacturing companies and the principal investigators in the ongoing trials were contacted.

Selection Criteria

Randomised controlled trials involving:

- Graduated compression stockings alone.

1078–5884/00/100323+03 $35.00/0

- Graduated compression stockings used on a background of any other DVT prophylactic method.

Data Collection and Analysis

One reviewer extracted the data, assessed the quality of trials and analysed the results (SVA). This was cross-checked and authenticated by the other reviewer (TAL).

Main Results

A total of 16 randomised controlled trials were identified. Graduated compression stockings were applied on the day before surgery or on the day of surgery and were worn up until discharge or until the patients were fully mobile. In the majority of the included studies, DVT was identified by radioactive I 125 uptake test.

Graduated compression stockings alone

Nine randomised controlled trials were identified in this group. In the treatment group (GCS) of 624 patients, 81 developed DVT (13%) in comparison to the control group of 581 patients, where 154 (27%) developed DVT, Peto's odds ratio 0.34 (95% confidence interval 0.25, 0.46) favouring treatment with GCS.

GCS on a background of another prophylactic method

Seven randomised controlled trials were identified in this group. In the treatment group (GCS + another method) of 501 patients, 10 (2%) developed DVT whereas in the control group of 505 patients, 74 (15%) developed DVT, Peto's odds ratio 0.24 (95% confidence interval 0.15, 0.37).

Reviewers' Conclusions

Analysis of these randomised controlled trials confirm that GCS are effective in diminishing the risk of deep vein thrombosis in hospitalised patients. Data examination also suggests that GCS on a background of another method of prophylaxis is even more effective than GCS alone.

Abstract: Vitamin K antagonists or low molecular weight heparin for the long-term treatment of symptomatic venous thromboembolism

J. F. van der Heijden, B. A. Hutten, H. R. Buller and M. H. Prins

Date of most recent substantive amendment: 28 March 2000

Background

Patients who have had an episode of symptomatic venous thromboembolism are usually treated for at least 5 days with intravenous unfractionated heparin or subcutaneous low molecular weight heparin. Thereafter, they received a 3-month course of a vitamin K antagonist, with a dose adjusted to achieve an International Normalized Ratio between 2.0 and 3.0. Some patients have contraindications to vitamin K antagonists. In addition, treatment with vitamin K antagonists has the disadvantage of regular laboratory measurements.

Objectives

The objective of this review was to evaluate the efficacy and safety of long-term treatment of symptomatic venous thromboembolism with low molecular weight heparins compared with vitamin K antagonists.

Search Strategy

Computerised searches of MEDLINE, EMBASE and Current Contents were made and relevant journals were hand-searched using the search strategy described by the Cochrane Peripheral Vascular Disease Group. In addition, randomised clinical trials were located through personal communication with colleagues. Where necessary, the reviewers contacted pharmaceutical companies for further information.

Selection Criteria

Two reviewers evaluated studies independently for methodological quality.

Data Collection and Analysis

Two reviewers reviewed and extracted data independently using a standard form.

Primary analysis concerned all patients in the studies during the period of randomised treatment. Additional separate analyses were performed for category I and category II studies; studies that used similar initial treatments in both study arms and those that used different treatment regimes during the initial treatment; and the total period of follow-up in the different studies.

Main Results

Five studies were identified that fulfilled our predefined criteria (three category I and two category II studies). When all five studies were combined, a statistically non-significant reduction of the risk of recurrent symptomatic venous thromboembolism in favour of low molecular weight heparin treatment (OR 0.72; 95% CI [0.42, 1.23]) was found. In category I studies, analysis of the pooled data showed a statistically non-significant reduction of the risk of recurrent symptomatic venous thromboembolism in favour of low molecular weight heparin treatment (OR 0.75; 95% CI [0.40, 1.39]). This OR was mainly due to one possibly confounded study, and after omitting this study from the analysis a statistically non-significant reduction of the risk of recurrent symptomatic venous thromboembolism in favour of vitamin K antagonist treatment remained (OR 1.95; 95% CI [0.74, 5.19]). No differences in the risk of bleeding (OR 0.63; 95% CI [0.21, 1.88]) and mortality (OR 1.13 ; 95% CI [0.47, 2.69] were observed.

Reviewers' Conclusions

Low molecular weight heparins are possibly as effective and safe as vitamin K antagonists in the prevention of recurrent symptomatic venous thromboembolism after an episode of symptomatic deep venous thrombosis, but have the disadvantage of much higher medicinal costs. Treatment with low molecular weight heparin is possibly a safe alternative in some patients: for example, patients who live in geographically inaccessible places; patients who are reluctant to go to the thrombosis service on a regular basis; and patients with contraindications to vitamin K antagonists (e.g. pregnant women). Therefore, in the absence of definitive evidence on the safety and efficacy of low molecular weight heparins compared with vitamin K antagonists, we believe that treatment with vitamin K antagonists is still the treatment of choice in the prevention of recurrent symptomatic venous thromboembolism after an episode of deep venous thrombosis, in the majority of patients.